

OPERATING SUMMARY

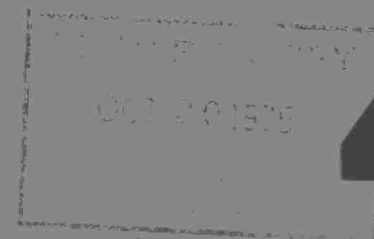
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VILLAGE OF

ELORA

WATER POLLUTION CONTROL PLANT



1974

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ELORA
WATER POLLUTION CONTROL PLANT

operated for
THE VILLAGE OF ELORA
by the
MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

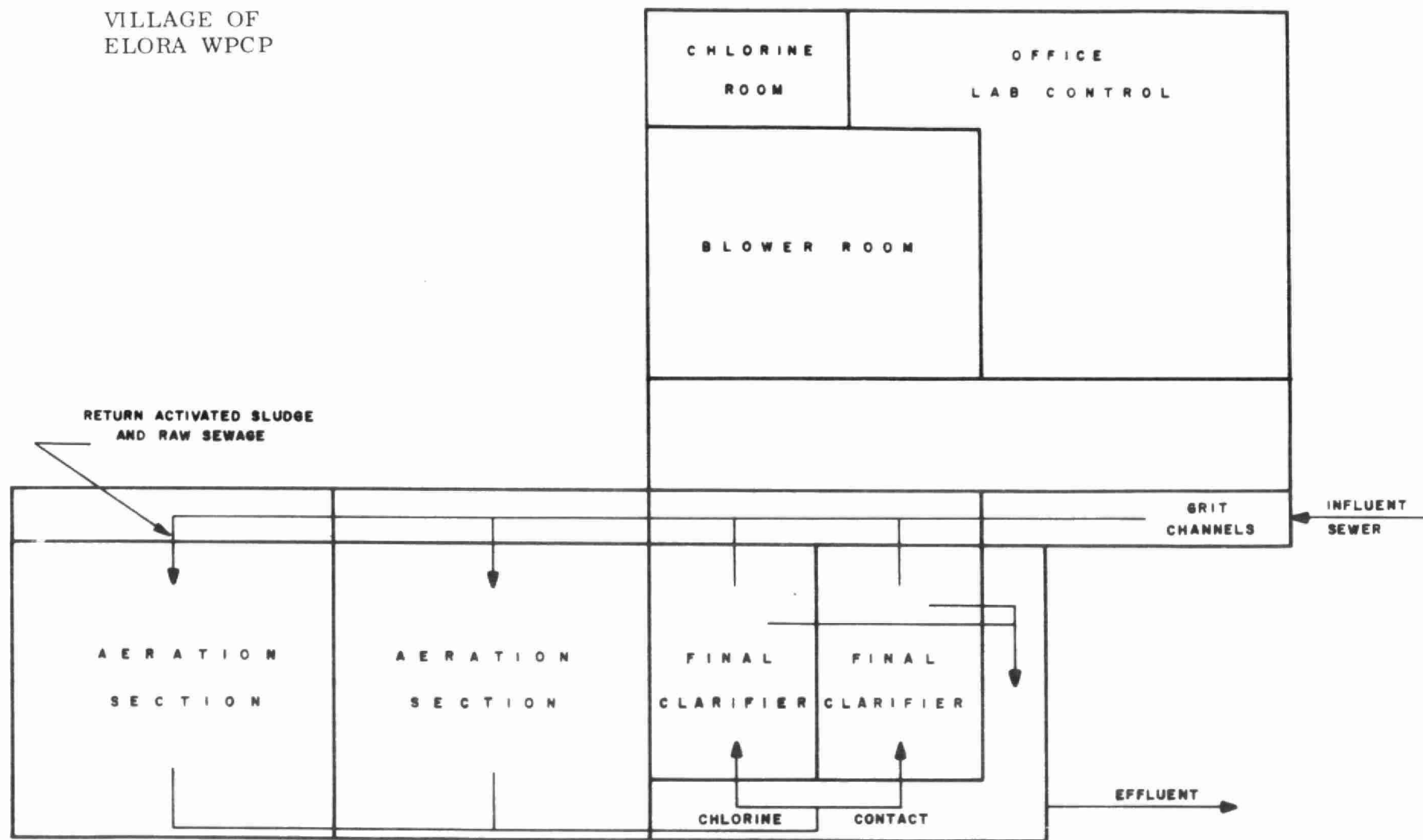
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VILLAGE OF
ELORA WPCP



DESIGN DATA

PROJECT Village of Elora WPCP

PROJECT NO. 2-0125-62

TREATMENT Extended Aeration

DESIGN FLOW 0.083 mgd

DESIGN POPULATION 1,000

BOD - Raw Sewage 210 mg/l

SS - Raw Sewage 250 mg/l

PRETREATMENT

Screening (at pumping station)

- Two coarse bar screens

Pumps - Robert Morse

- Two 300 gpm (electric) @ 47' tdh

Grit Removal

Type: Grit channels

Size: Two 10' x 2'

SECONDARY TREATMENT

Aeration Tanks

Type: Single-pass

Size: Two 32' x 20' x 11' (14,100 cu ft
or 87,800 gal)

Retention: 25.4 hr

Air Supply

Type: Sutorbilt; variable speed pulley

Size: Two 183-370 cfm each

Diffusers

Type: Spargers

Size: 16 per tank @ 2' centres

Secondary Sedimentation

Type: Walker Process

Size: Two 26' x 6' x 7'9" deep (7,500 gal)

Retention: 4.3 hr

Loading: Surface, 266 gal/ft²/day

Weir, 1,500 gal/ft/day

CHLORINATION

Type: Advance, Model 101

Chlorine Contact Chamber

Size: 13' x 5' x 6' deep (2,180 gal)

Retention: 37.7 min

OUTFALL

- 12" dia pipe to Grand River

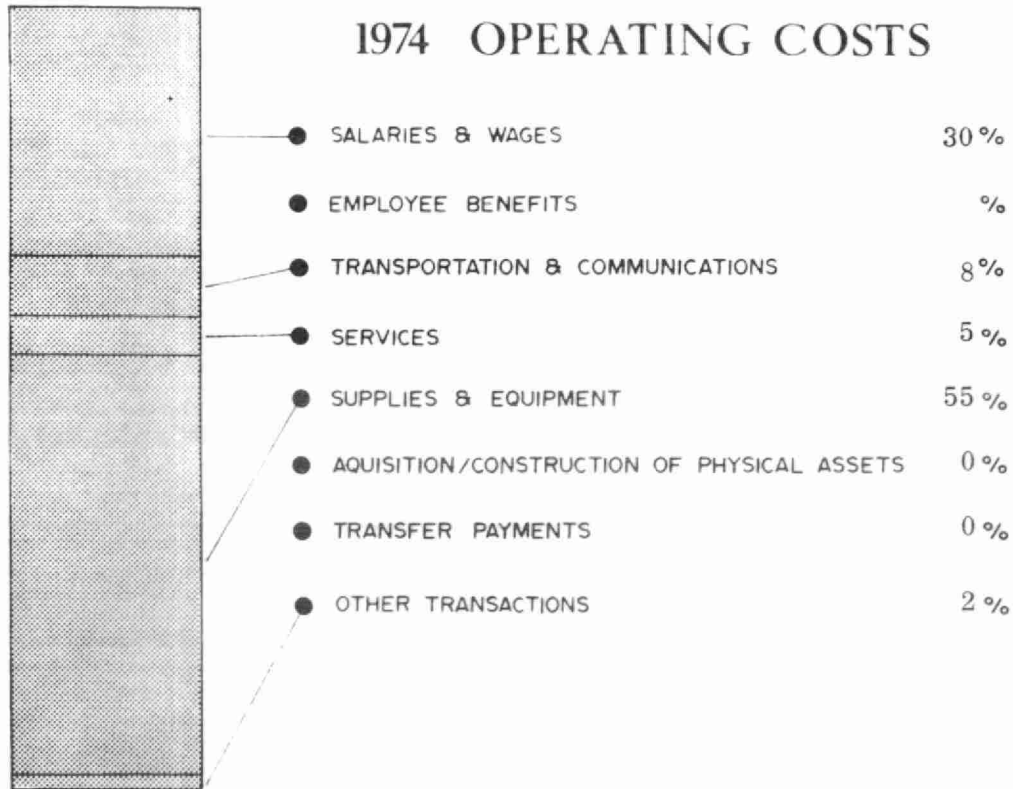
SLUDGE HANDLING

Type: Thickening tank

Size: 27' x 20' 8" x 11' 9" (avg)
(6,750 cu ft or 42,000 gal)

ANNUAL COSTS

1974 OPERATING COSTS



YEARLY OPERATING COSTS

YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G	¢/lb BOD
1969	24.8	5,743	232	17
1970	23.8	7,746	325	16
1971	40.0 *	11,822	296	17
1972	58.6	11,362	194	16
1973	58.4	9,713	167	13
1974	66.0*	18,688	283	34

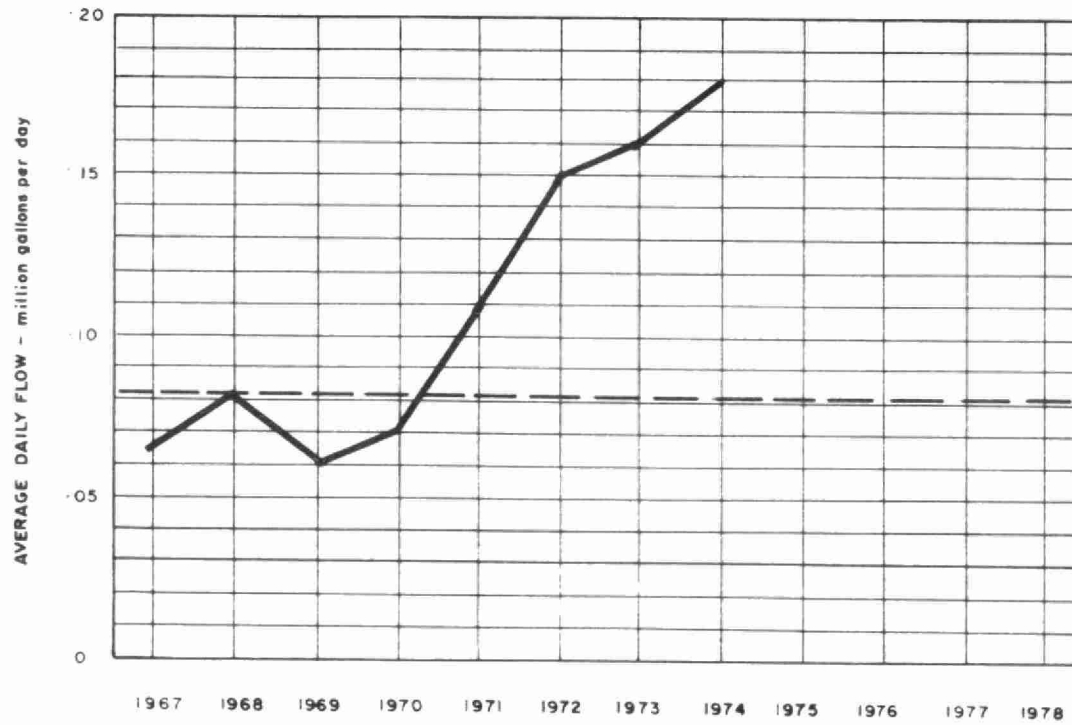
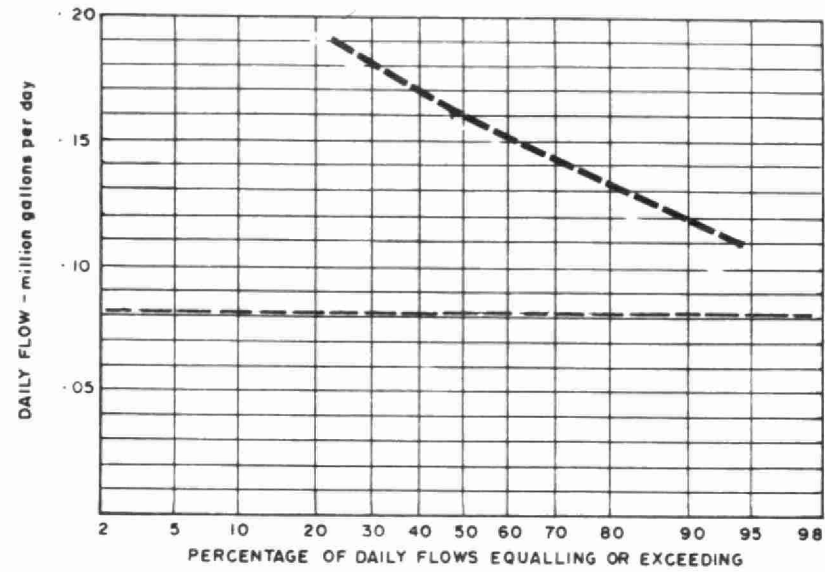
*Estimated

OPERATING EXPENDITURES

Regular Staff	\$ 5455	\$
Casual (Unclassified) Staff	170	
TOTAL SALARIES AND WAGES		5625
TOTAL EMPLOYEE BENEFITS		
TOTAL TRANSPORTATION AND COMMUNICATIONS		1432
Insurance	268	
Sludge Haulage	488	
Repairs and Maintenance	176	
Other Services	35	
TOTAL SERVICES		967
Machinery and Equipment	3569	
Chemicals	3552	
Utilities	2031	
Other Supplies and Equipment	1207	
TOTAL SUPPLIES AND EQUIPMENT		10359
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		305
GRAND TOTAL	GRAND TOTAL	\$ 18688

PROCESS DATA

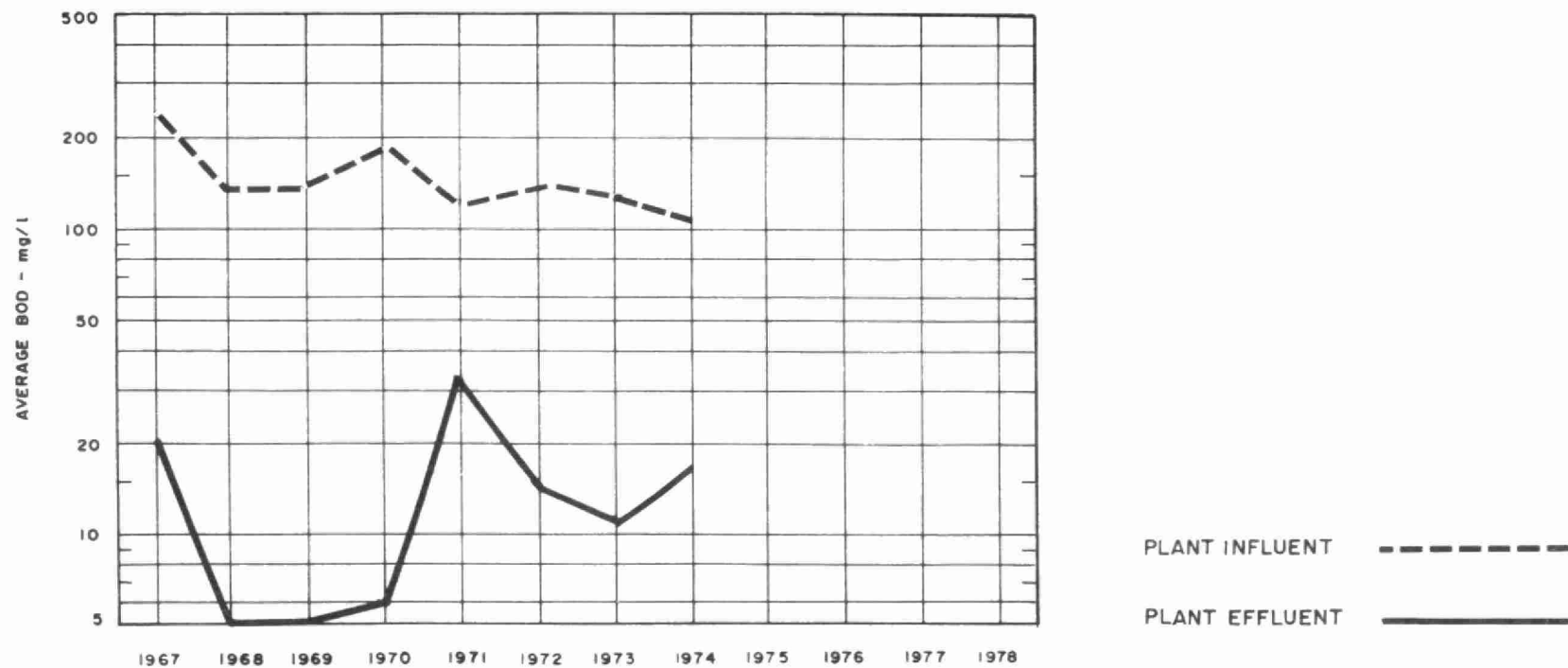
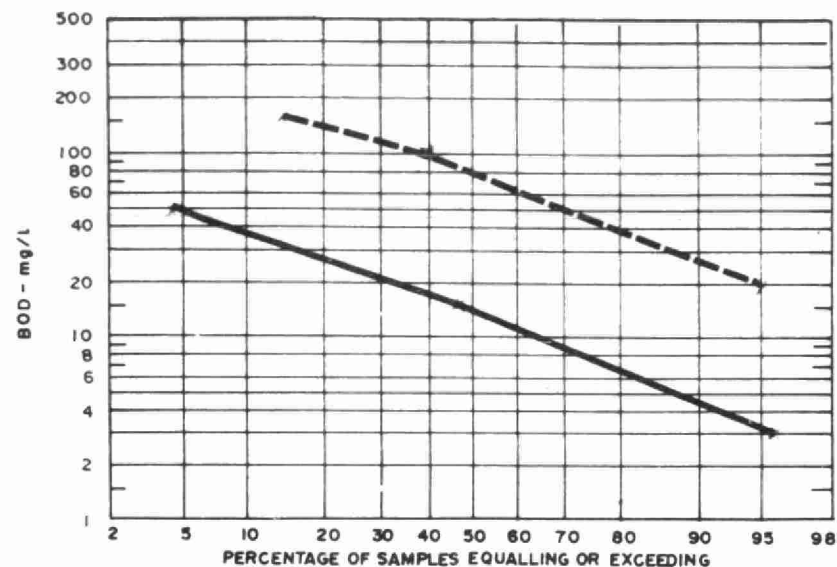
FLOWS



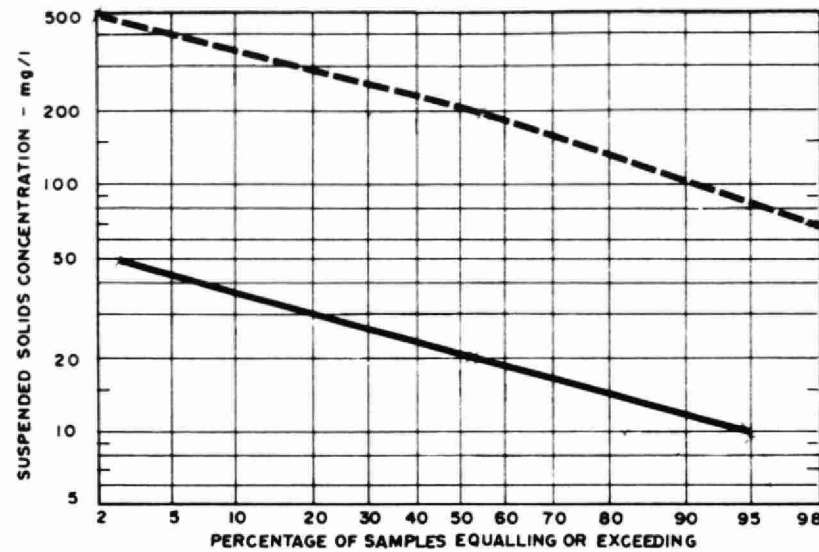
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal	MAXIMUM DAY mgd	INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l P	EFFLUENT mg/l P
						%	10 ³ pounds			%	10 ³ pounds		
JAN	5.61	.18	.33	107	29	73	4.4	193	14	93	10.0	8.8	1.2
FEB				100	10	90		182	16	91		5.1	1.8
MAR				60	7	88		172	20	88		6.0	.9
APR				59	9	85		138	14	90		4.7	1.2
MAY				51	7	86		131	14	89		5.6	1.3
JUNE				75	7	92		160	18	89		6.8	1.9
JULY								280	26	91			
AUG				160	55	66		220	24	89		7.8	4.6
SEPT				117	17	85		225	37	84		12.5	2.8
OCT				120	11	91		266	37	86		11.5	4.5
NOV				135	17	87		228	22	90		5.0	2.9
DEC				140	21	85		263	23	91		12.8	2.6
TOTAL		-	-	-	-	-		-	-	-		-	-
AVG.		.18	MAXIMUM .33	101	18	82	4.6	203	22	89	10.0	8.1	2.3
No. of Samples	-	-	-	19	22	-	-	66	223	-	-	19	19

BIOCHEMICAL OXYGEN DEMAND

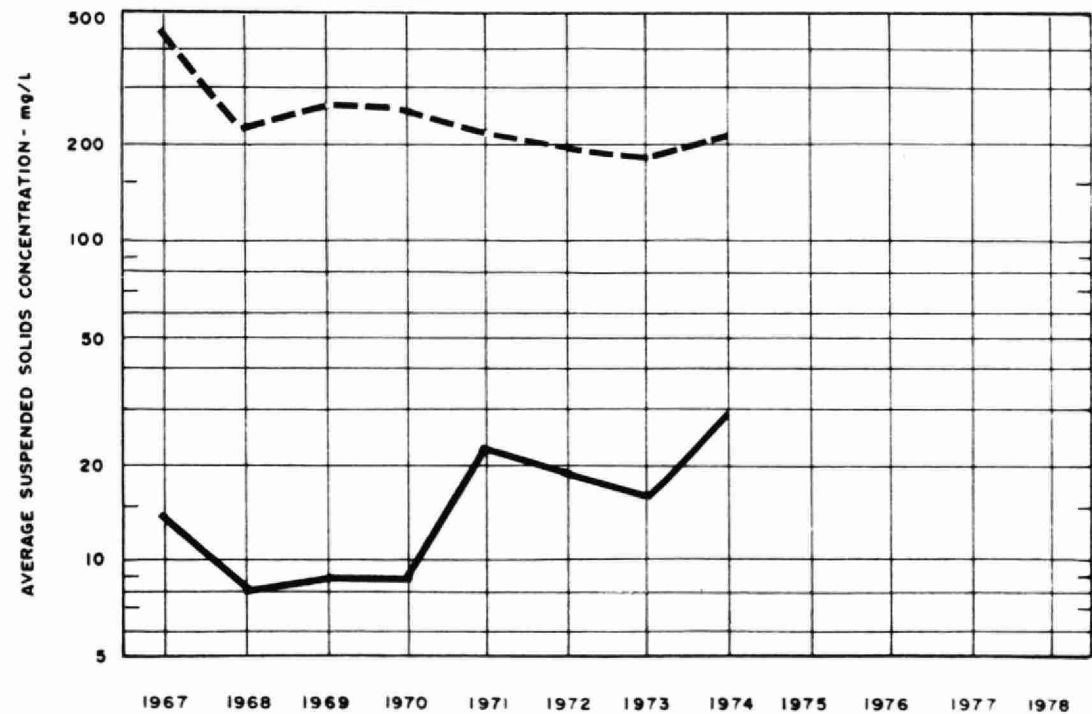


SUSPENDED SOLIDS

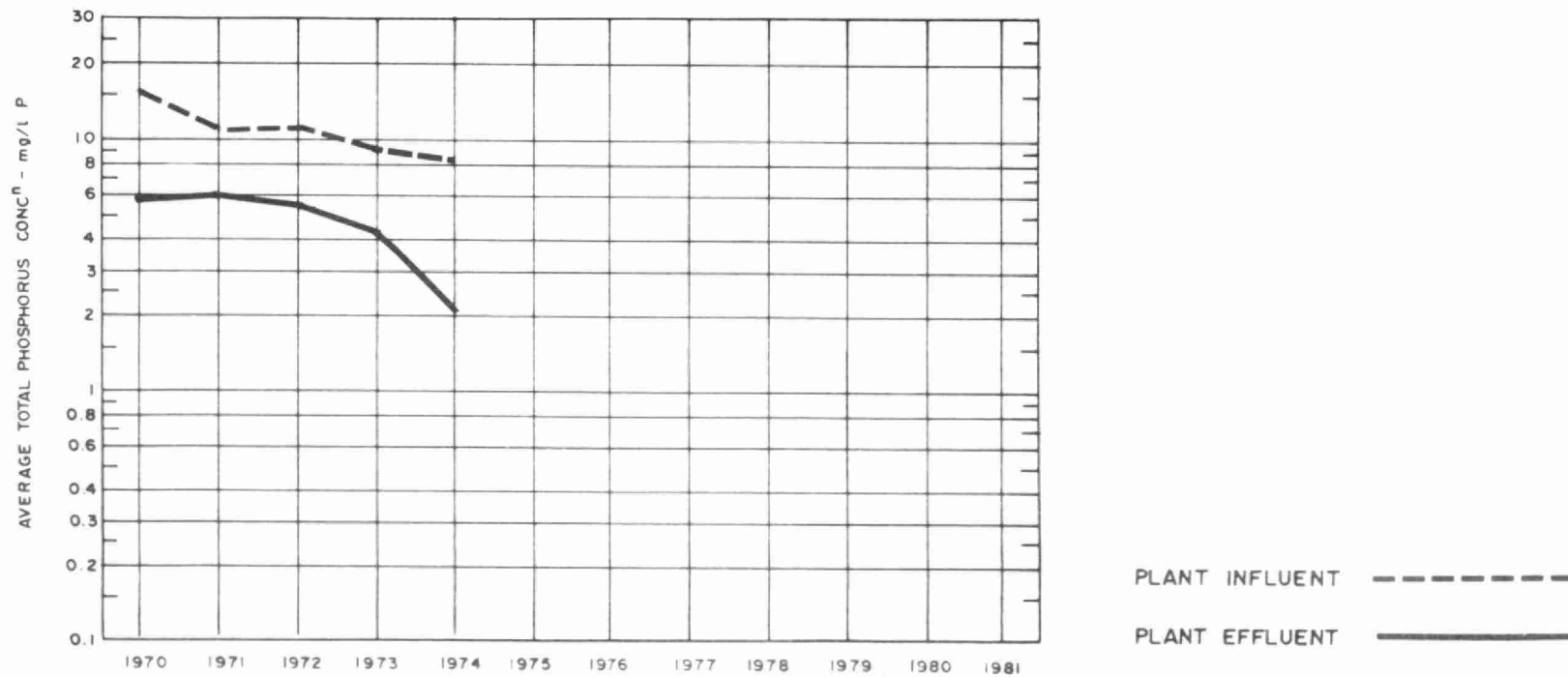
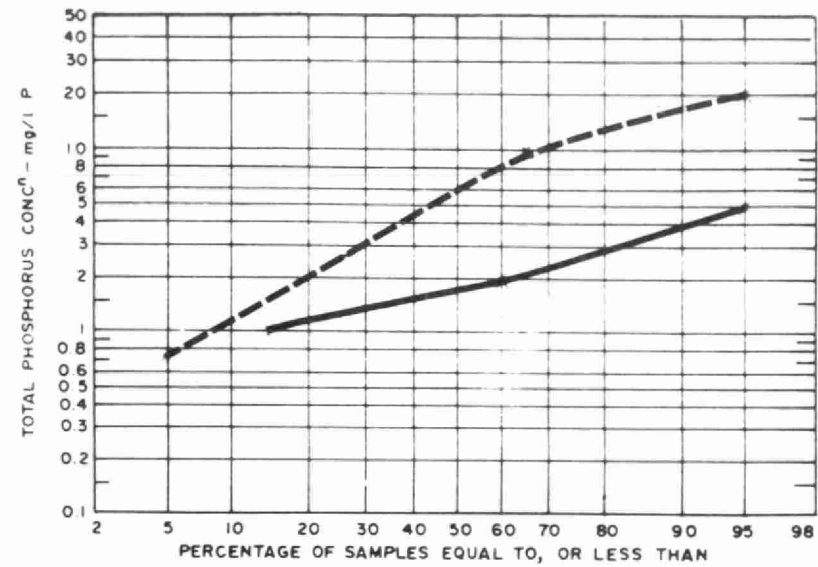


PLANT INFLUENT - - - - -

PLANT EFFLUENT —————



PHOSPHORUS



TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED	CL ₂ USED	AVG. DOSAGE	MLSS CONC	F/M	AIR USED	QUANTITY	SUSPENDED SOLIDS	VOL. SOLIDS	QUANTITY REMOVED	SUSPENDED SOLIDS	VOL SOLIDS	AMOUNT HAULED
	cubic feet	pounds	mg/l	mg/L	day ⁻¹	$\frac{1000 \text{ ft}}{\text{lb BOD}}$	10 ³ gallons	mg/l	%	10 ³ gallons	mg/l	%	cubic yards
JAN	4	145	2.6	4900	.05			8100					
FEB	3	148		4200				8600					
MAR	7	176		3600				9700					
APR		161		4500			40.0	9400					
MAY	10	152		4000			55.0	7400		22.0			132
JUNE		152		3000				5100					
JULY		158						2700					
AUG		144		2200			45.0	2700					
SEPT	6	116		2300			50.0	14000					
OCT.	7	121		2700			75.0	6100					
NOV	6	138		2700			75.0	4900		5.1			30
DEC	3	185		3800			75.0	6300		28.8			171
TOTAL	46	1796	-	-	-	-	415.0	-	-	55.8	-	-	333
AVG.	.7 cu. ft/mil gal	150	2.7	3400	.05			7100					

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